Fig. 1

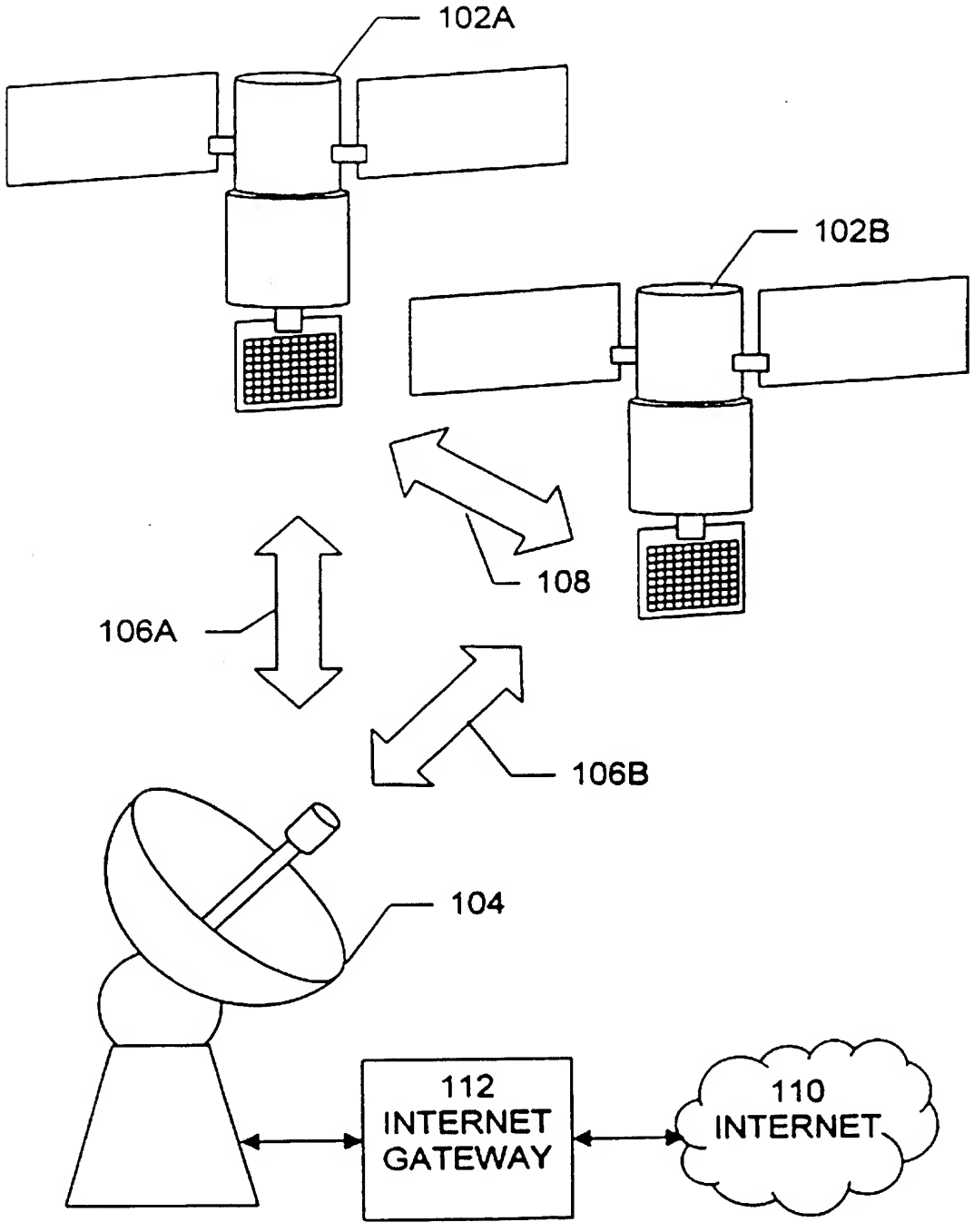

102A
102B
108
106A
106B
104
112
INTERNET
GATEWAY
110
INTERNET

Fig. 2

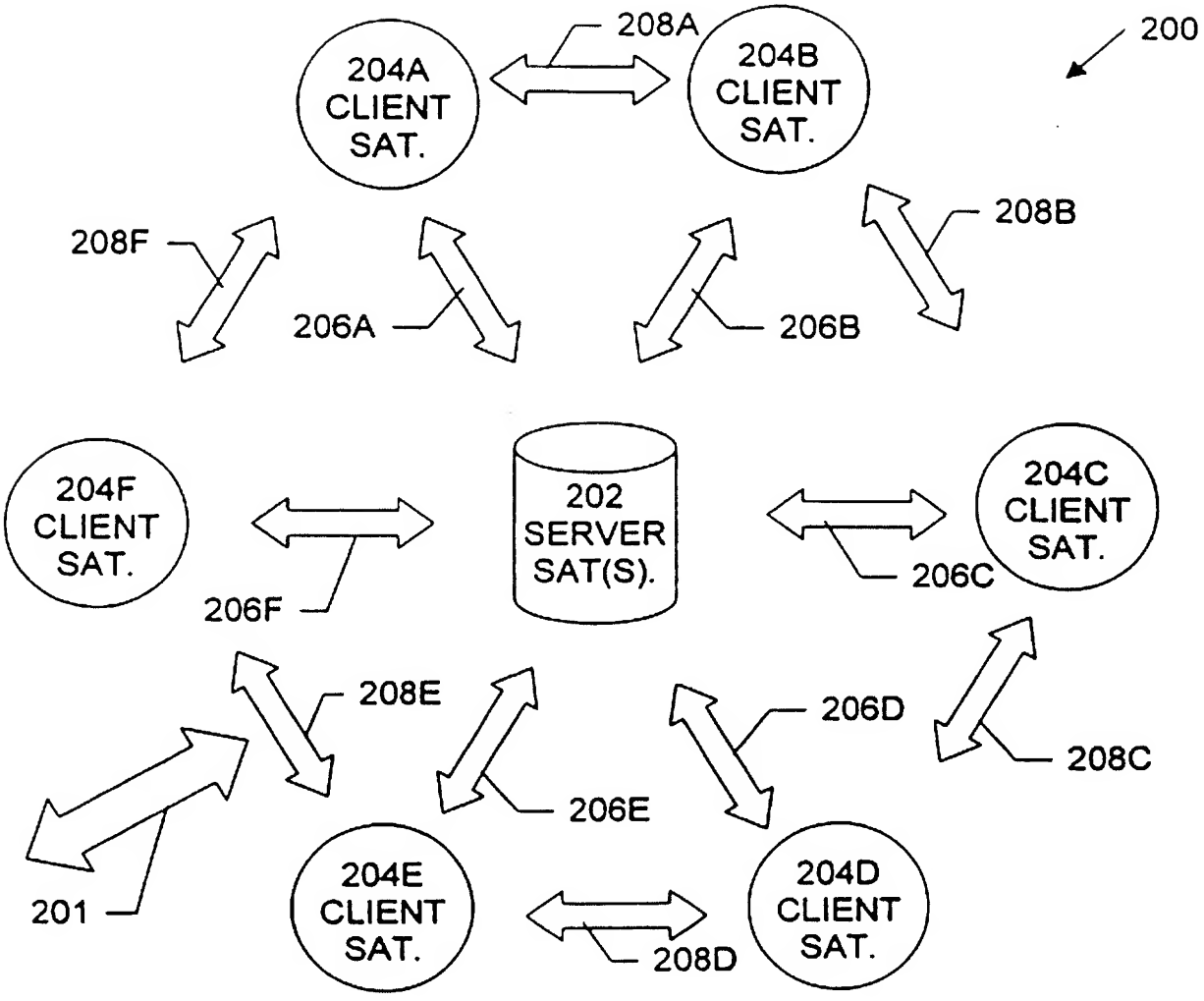

200
208A
204A CLIENT SAT.
204B CLIENT SAT.
208B
208F
206A
206B
204F CLIENT SAT.
202 SERVER SAT(S).
204C CLIENT SAT.
206F
206C
208E
206D
208C
206E
201
204E CLIENT SAT.
204D CLIENT SAT.
208D

Fig. 3

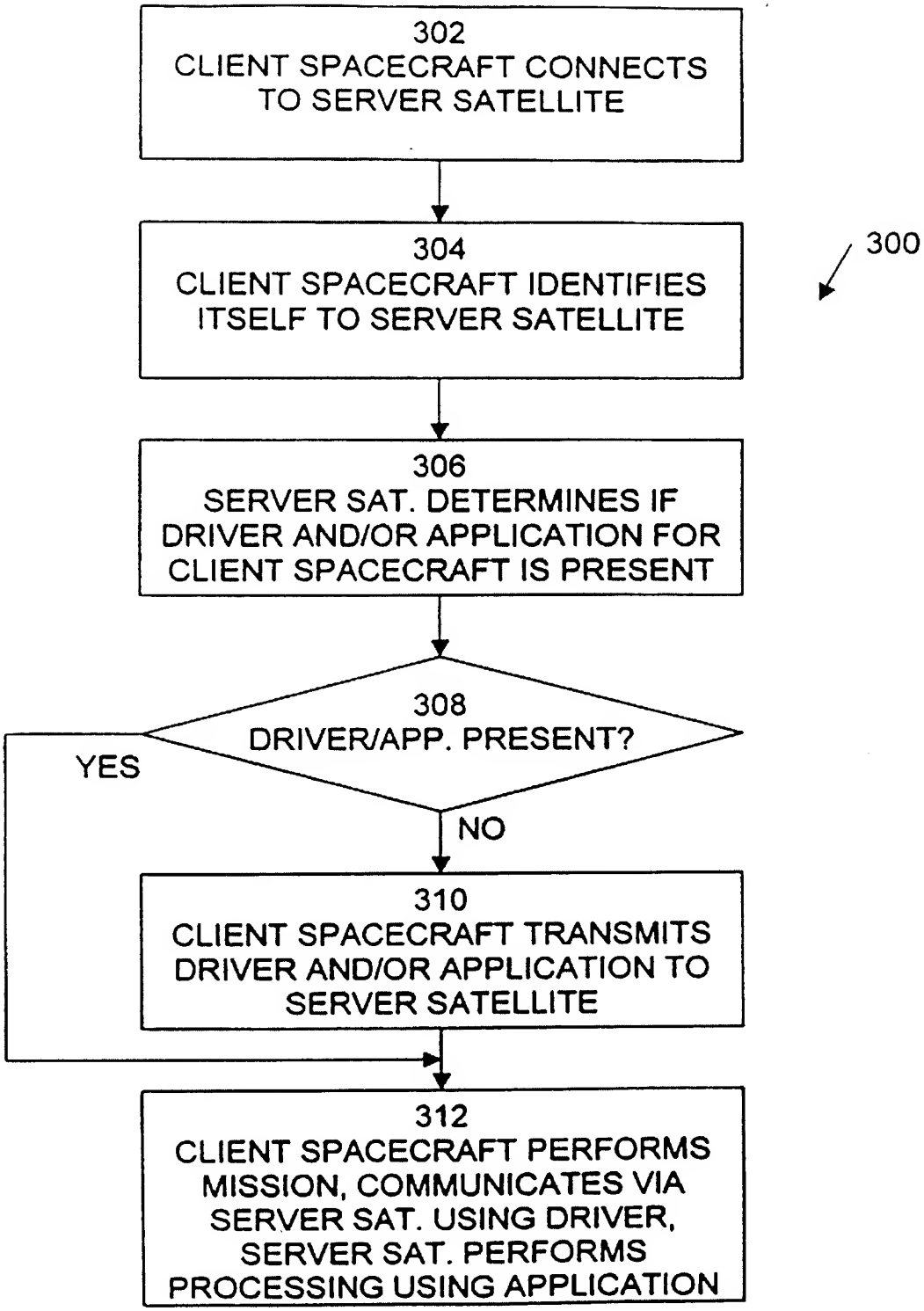

302
CLIENT SPACECRAFT CONNECTS TO SERVER SATELLITE
304
CLIENT SPACECRAFT IDENTIFIES ITSELF TO SERVER SATELLITE
300
306
SERVER SAT. DETERMINES IF DRIVER AND/OR APPLICATION FOR CLIENT SPACECRAFT IS PRESENT
308
DRIVER/APP. PRESENT?
YES
NO
310
CLIENT SPACECRAFT TRANSMITS DRIVER AND/OR APPLICATION TO SERVER SATELLITE
312
CLIENT SPACECRAFT PERFORMS MISSION, COMMUNICATES VIA SERVER SAT. USING DRIVER, SERVER SAT. PERFORMS PROCESSING USING APPLICATION

Fig. 4

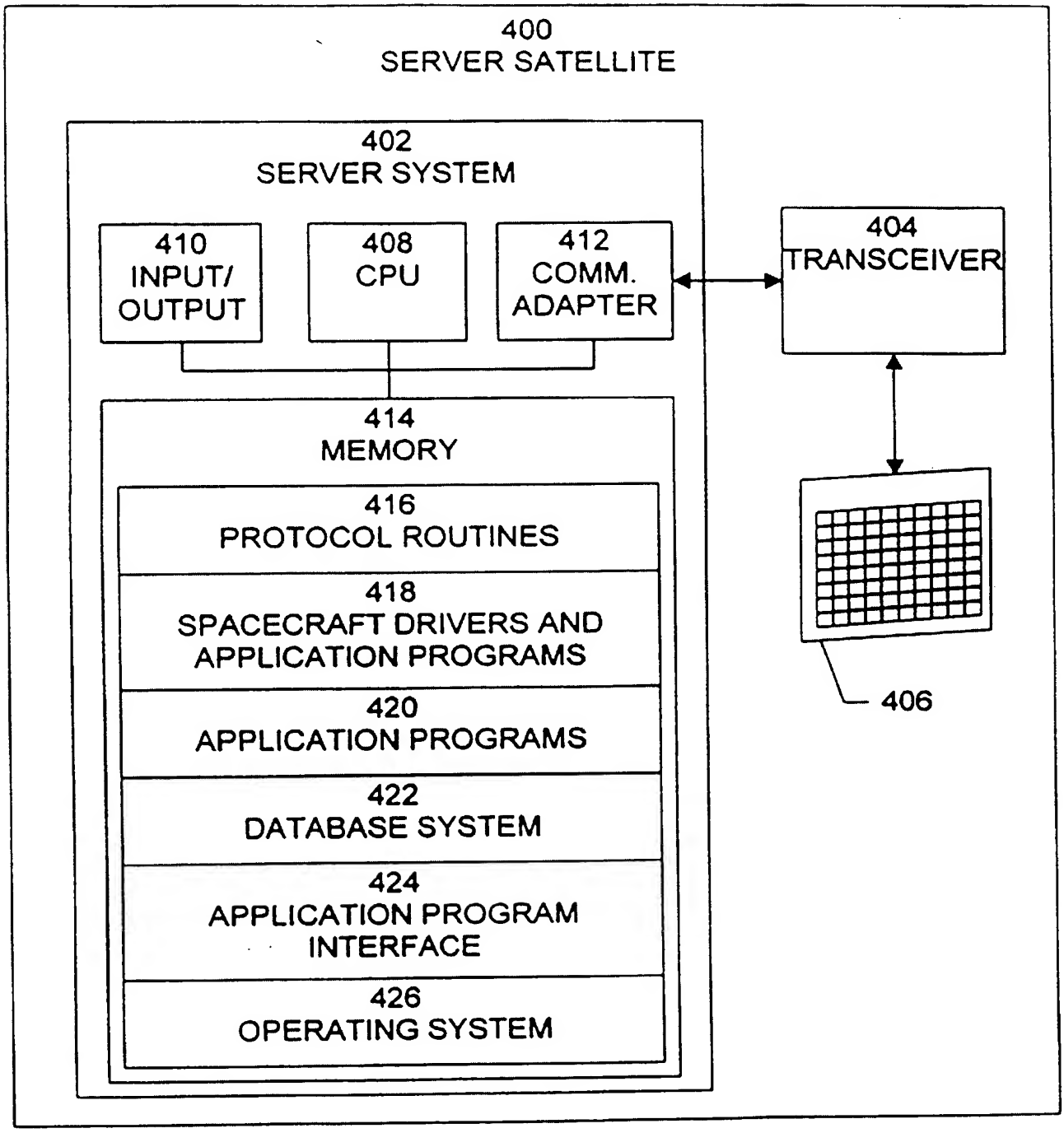

400
SERVER SATELLITE
402
SERVER SYSTEM
410
INPUT/
OUTPUT
408
CPU
412
COMM.
ADAPTER
404
TRANSCEIVER
414
MEMORY
416
PROTOCOL ROUTINES
418
SPACECRAFT DRIVERS AND
APPLICATION PROGRAMS
420
APPLICATION PROGRAMS
422
DATABASE SYSTEM
424
APPLICATION PROGRAM
INTERFACE
426
OPERATING SYSTEM
406

Fig. 5

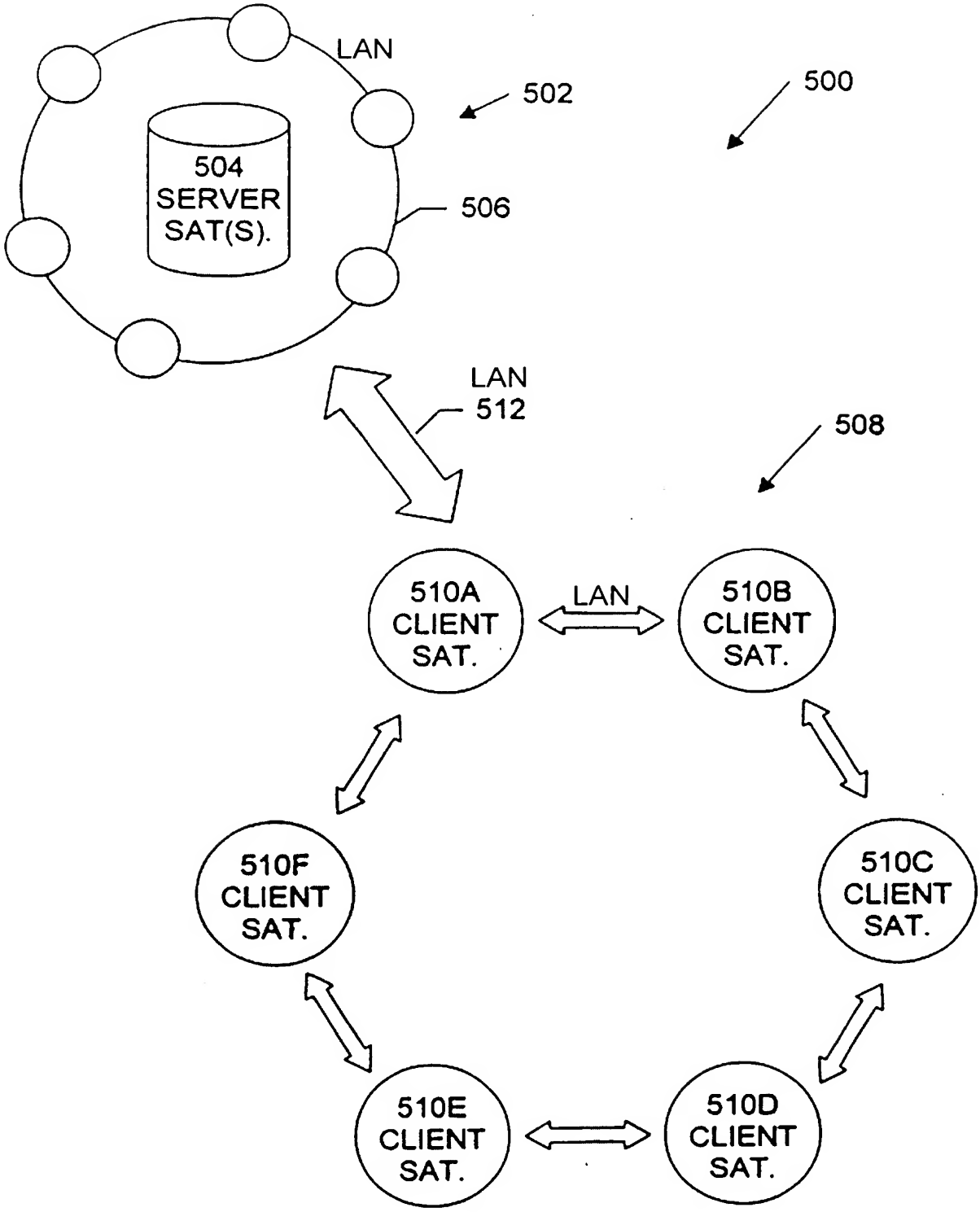

LAN
502
500
504
SERVER
SAT(S).
506
LAN
512
508
510A
CLIENT
SAT.
LAN
510B
CLIENT
SAT.
510F
CLIENT
SAT.
510C
CLIENT
SAT.
510E
CLIENT
SAT.
510D
CLIENT
SAT.

Fig. 6

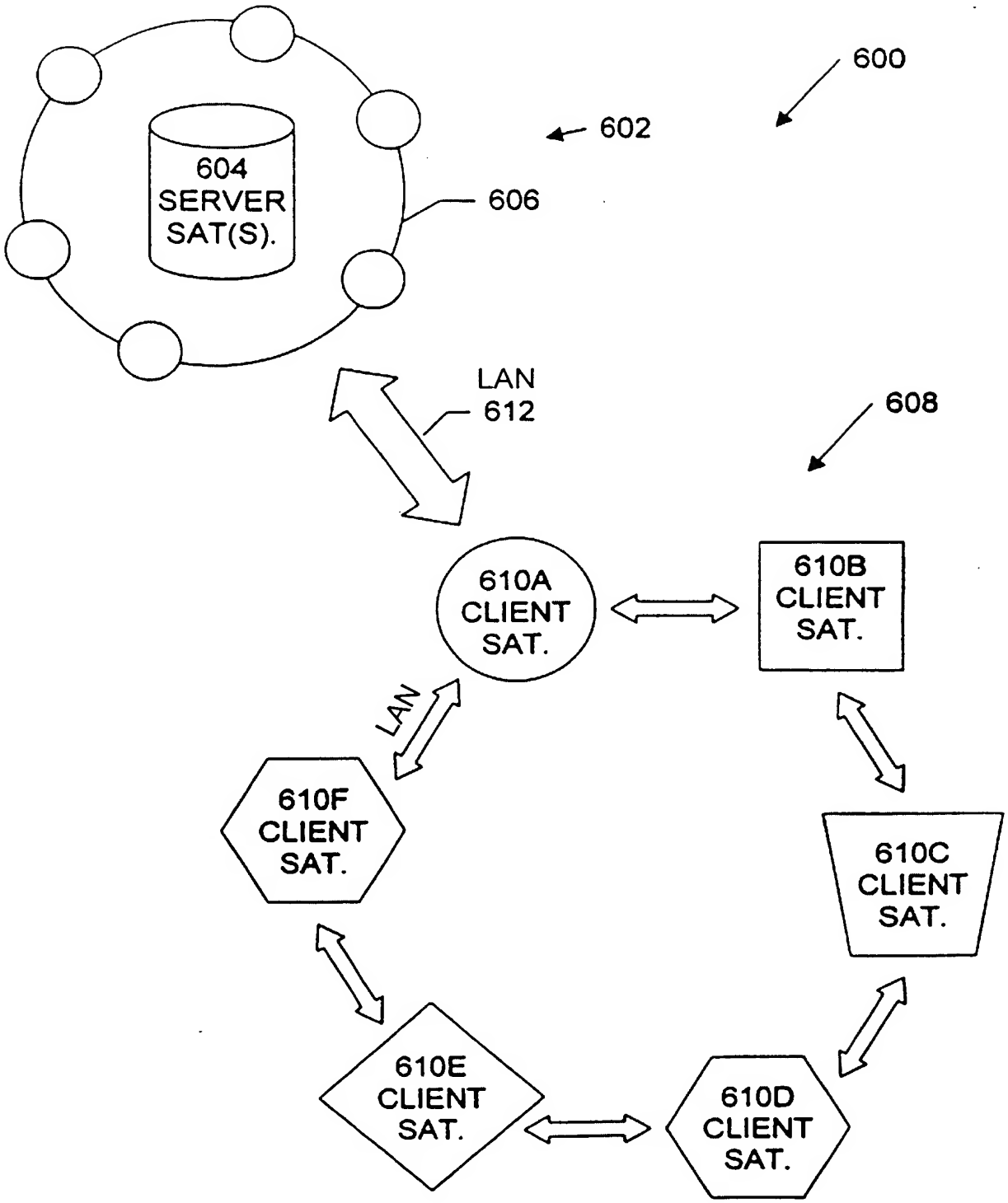

600
602
604
SERVER
SAT(S).
606
LAN
612
608
610A
CLIENT
SAT.
610B
CLIENT
SAT.
LAN
610F
CLIENT
SAT.
610C
CLIENT
SAT.
610E
CLIENT
SAT.
610D
CLIENT
SAT.

Fig. 7

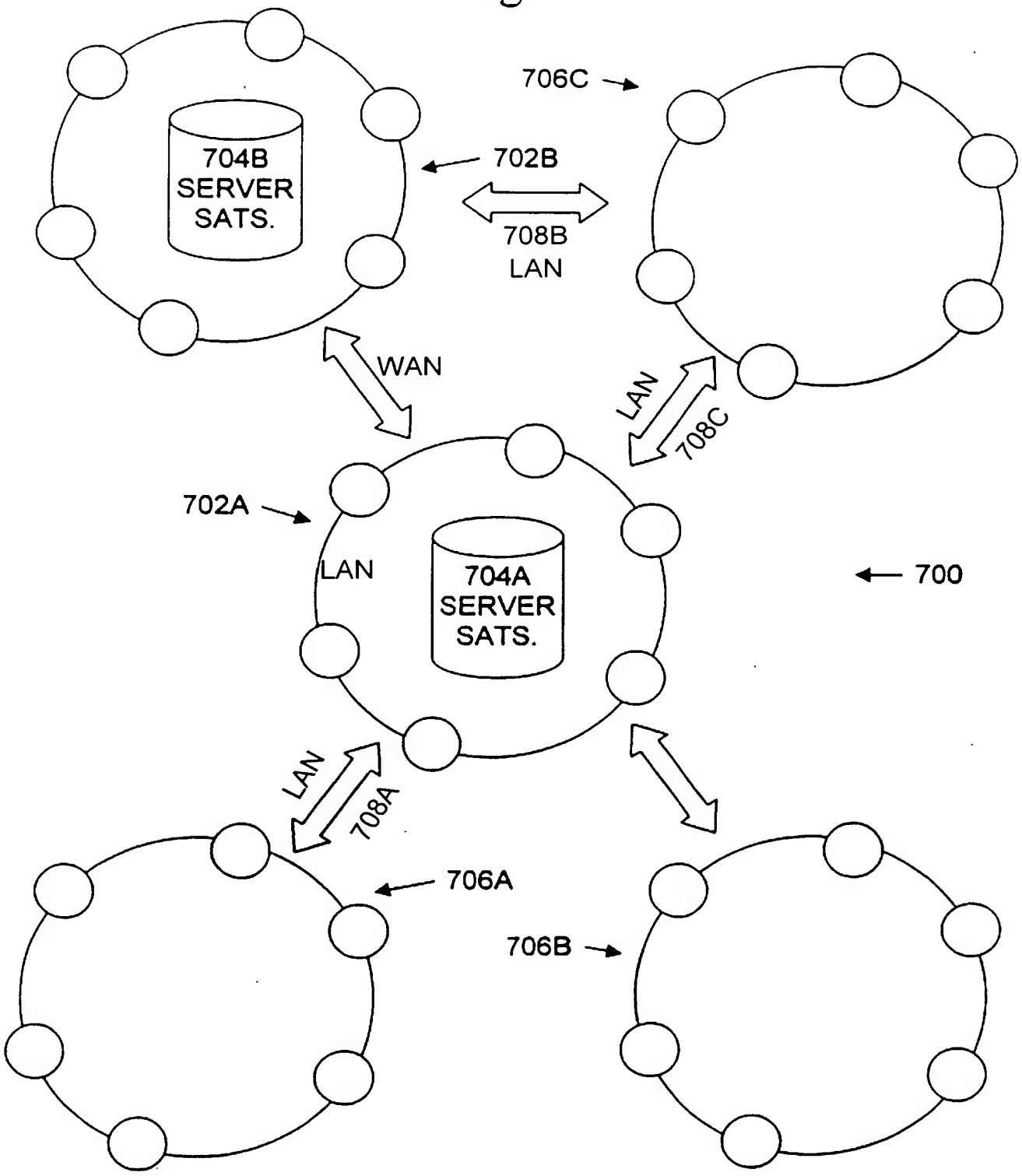
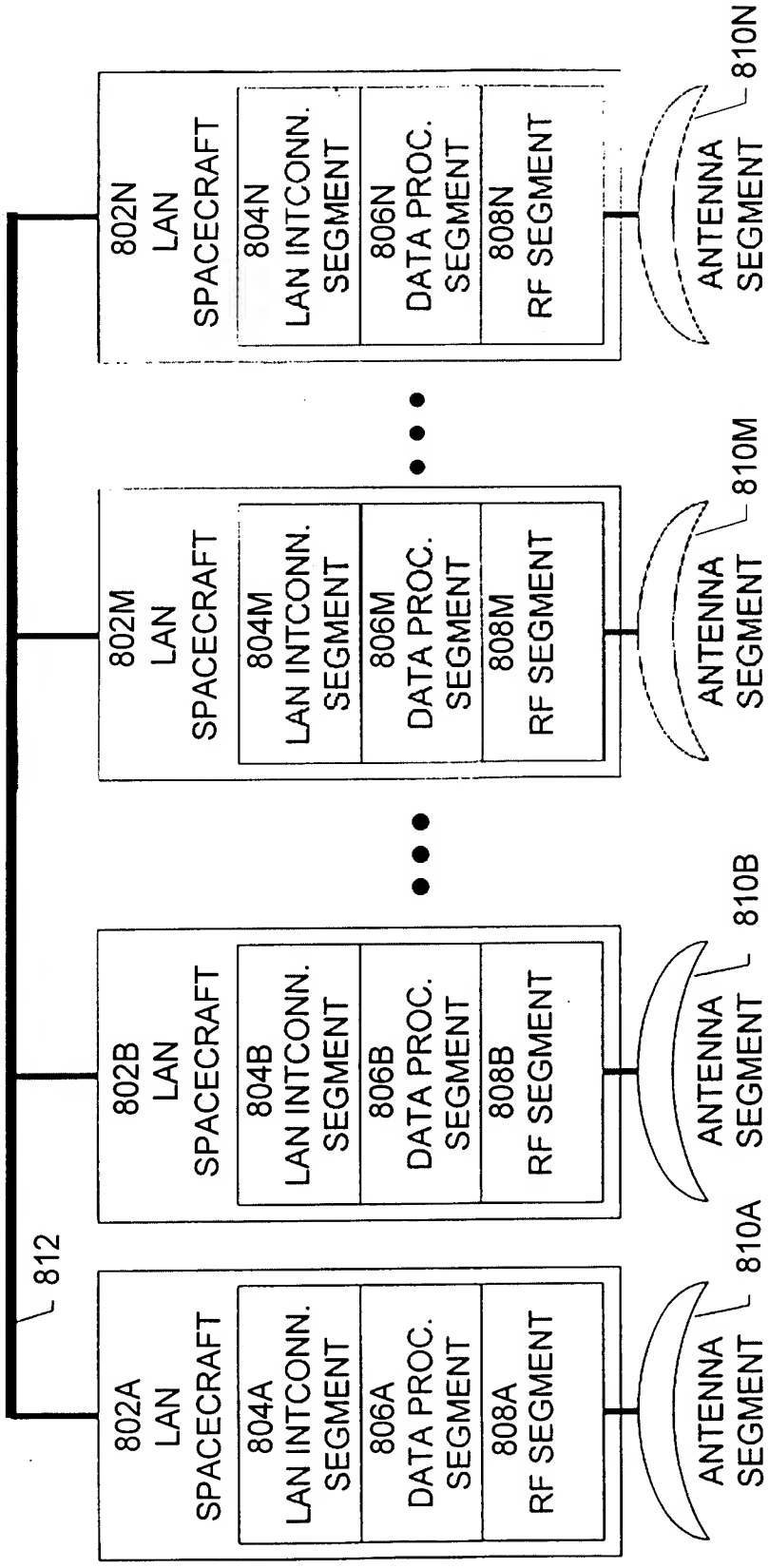

706C
704B
SERVER
SATS.
702B
708B
LAN
WAN
LAN
708C
702A
LAN
704A
SERVER
SATS.
700
LAN
708A
706A
706B

Fig. 8


812
802A LAN SPACECRAFT
804A LAN INTCONN. SEGMENT
806A DATA PROC. SEGMENT
808A RF SEGMENT
ANTENNA SEGMENT
810A
802B LAN SPACECRAFT
804B LAN INTCONN. SEGMENT
806B DATA PROC. SEGMENT
808B RF SEGMENT
ANTENNA SEGMENT
810B
802M LAN SPACECRAFT
804M LAN INTCONN. SEGMENT
806M DATA PROC. SEGMENT
808M RF SEGMENT
ANTENNA SEGMENT
810M
802N LAN SPACECRAFT
804N LAN INTCONN. SEGMENT
806N DATA PROC. SEGMENT
808N RF SEGMENT
ANTENNA SEGMENT
810N

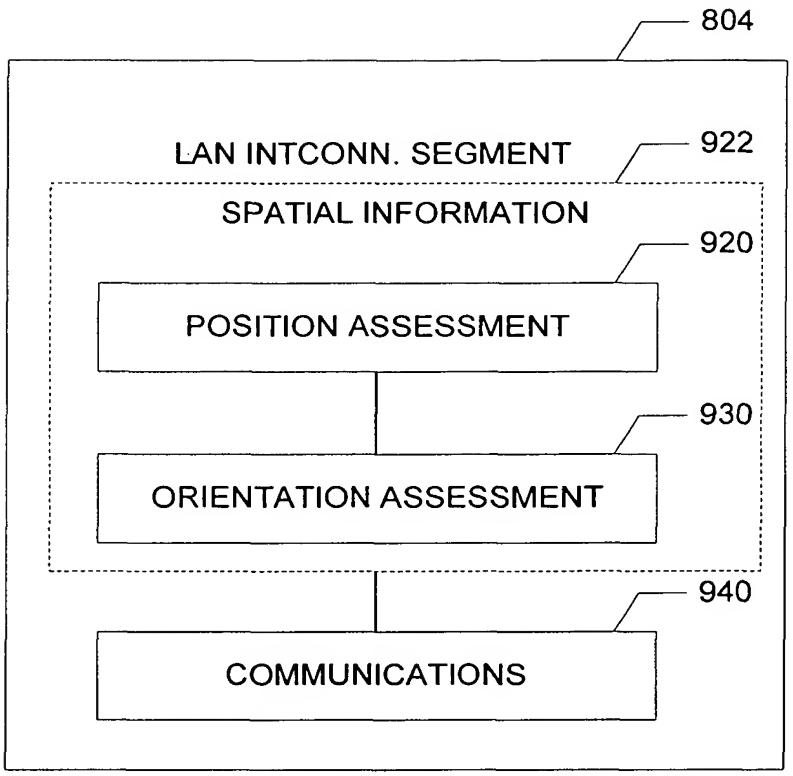

804
LAN INTCONN. SEGMENT
922
SPATIAL INFORMATION
920
POSITION ASSESSMENT
930
ORIENTATION ASSESSMENT
940
COMMUNICATIONS

Figure 9

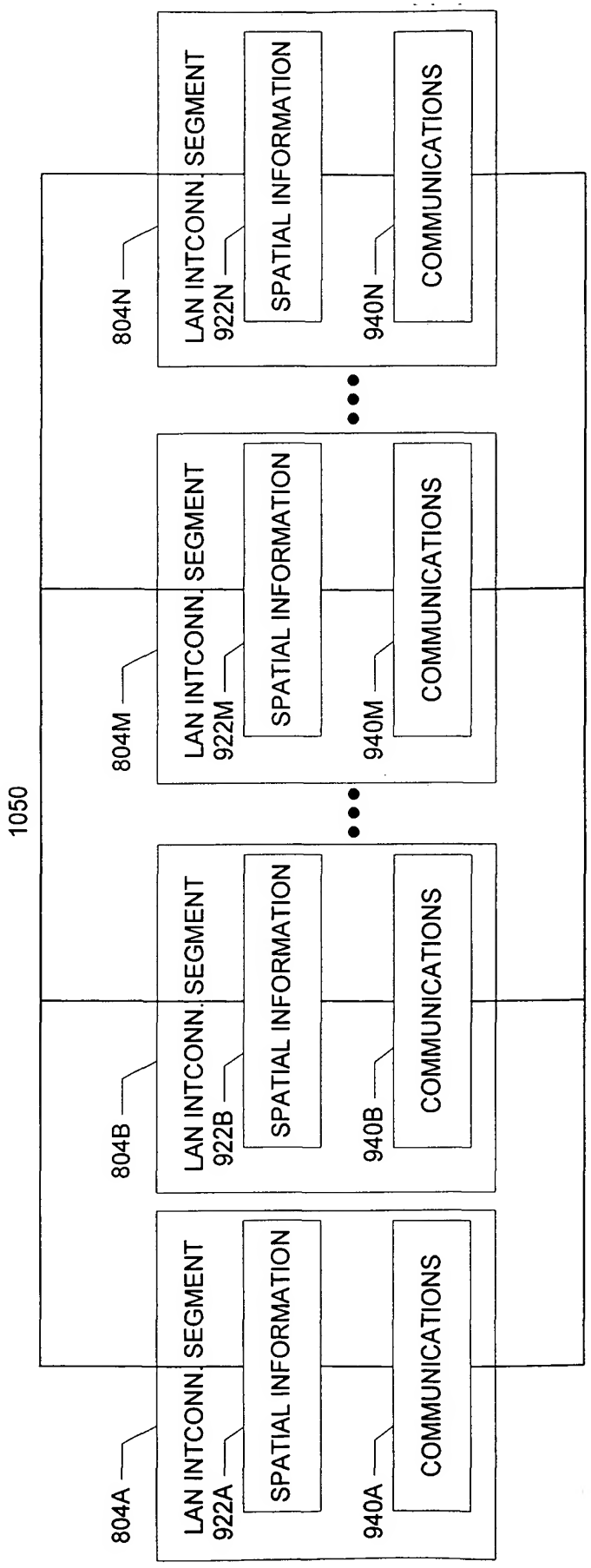

1050
1060
804A
LAN INTCONN. SEGMENT
922A
SPATIAL INFORMATION
940A
COMMUNICATIONS
804B
LAN INTCONN. SEGMENT
922B
SPATIAL INFORMATION
940B
COMMUNICATIONS
804M
LAN INTCONN. SEGMENT
922M
SPATIAL INFORMATION
940M
COMMUNICATIONS
804N
LAN INTCONN. SEGMENT
922N
SPATIAL INFORMATION
940N
COMMUNICATIONS

Figure 10

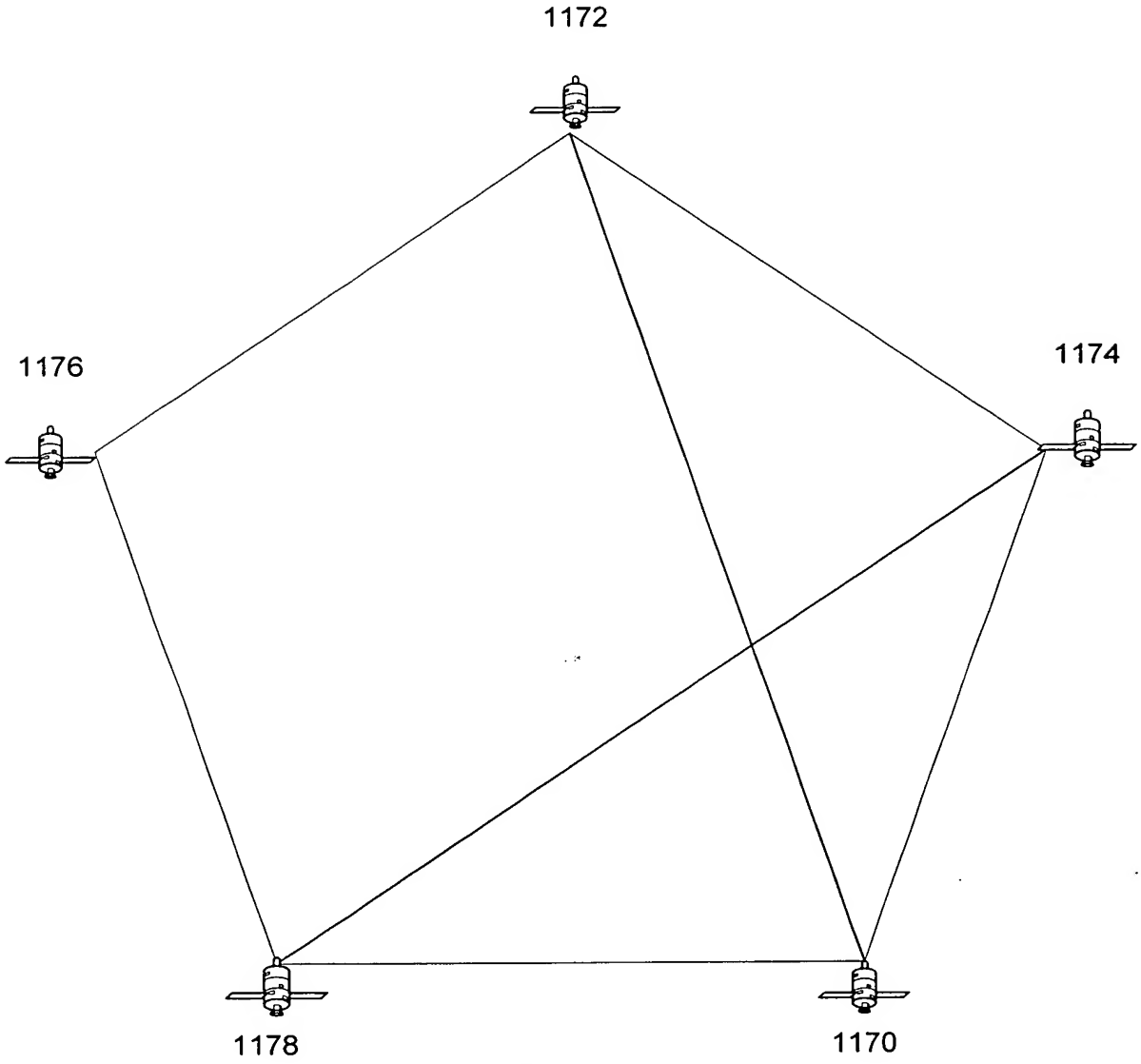


Figure 11

1280

Routes	Spacecrafts	Route Information
1	1170→1172	Information for route 1
2	1170→1174→ 1178→1176→1172	Information for route 2
3	1170→1174→1172	Information for route 3
4	1170→1178→ 1174→1172	Information for route 4
⋮	⋮	⋮

Figure 12

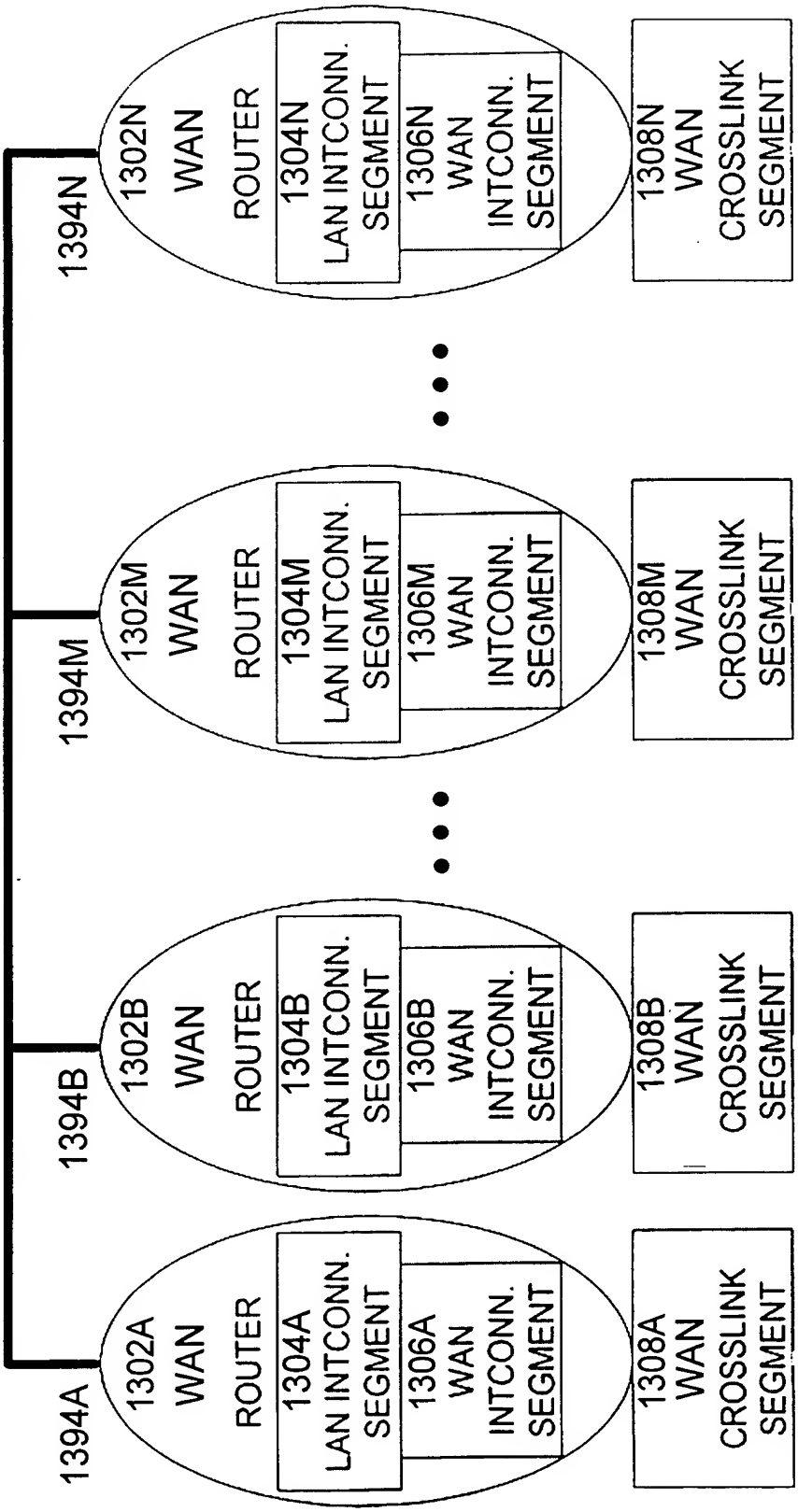

1394A
1302A WAN ROUTER
1304A LAN INTCONN. SEGMENT
1306A WAN INTCONN. SEGMENT
1308A WAN CROSSLINK SEGMENT
1394B
1302B WAN ROUTER
1304B LAN INTCONN. SEGMENT
1306B WAN INTCONN. SEGMENT
1308B WAN CROSSLINK SEGMENT
1394M
1302M WAN ROUTER
1304M LAN INTCONN. SEGMENT
1306M WAN INTCONN. SEGMENT
1308M WAN CROSSLINK SEGMENT
1394N
1302N WAN ROUTER
1304N LAN INTCONN. SEGMENT
1306N WAN INTCONN. SEGMENT
1308N WAN CROSSLINK SEGMENT

Fig. 13

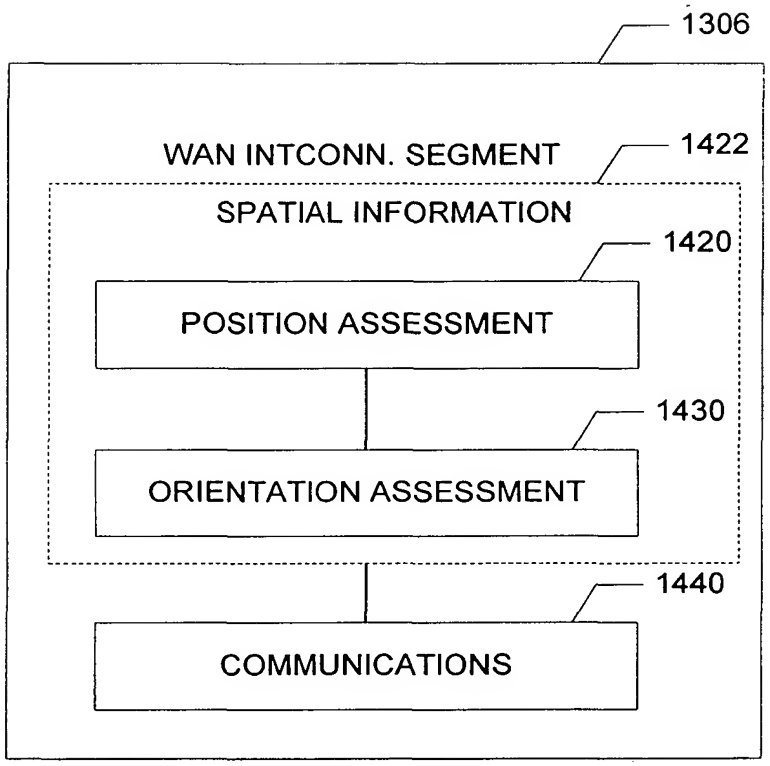

1306
WAN INTCONN. SEGMENT
1422
SPATIAL INFORMATION
1420
POSITION ASSESSMENT
1430
ORIENTATION ASSESSMENT
1440
COMMUNICATIONS

Figure 14

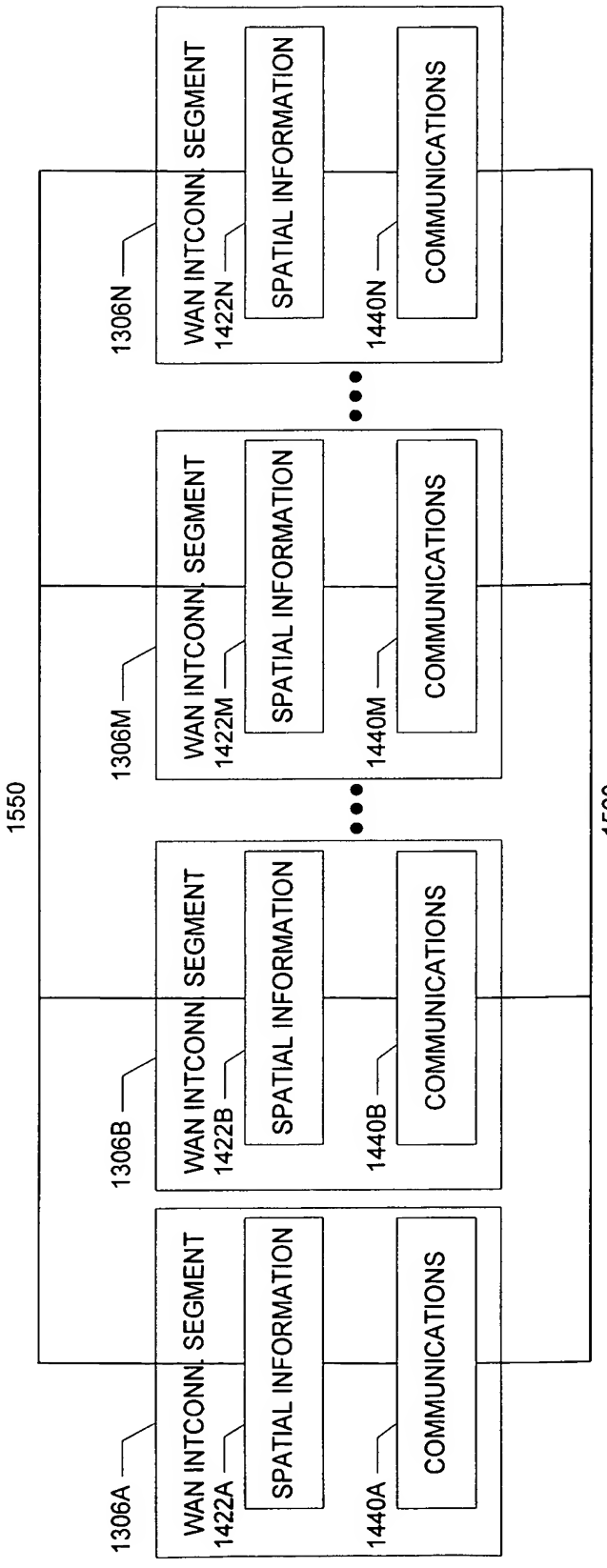

1550
1560
1306A
WAN INTCONN SEGMENT
1422A
SPATIAL INFORMATION
1440A
COMMUNICATIONS
1306B
WAN INTCONN SEGMENT
1422B
SPATIAL INFORMATION
1440B
COMMUNICATIONS
1306M
WAN INTCONN SEGMENT
1422M
SPATIAL INFORMATION
1440M
COMMUNICATIONS
1306N
WAN INTCONN SEGMENT
1422N
SPATIAL INFORMATION
1440N
COMMUNICATIONS

Figure 15

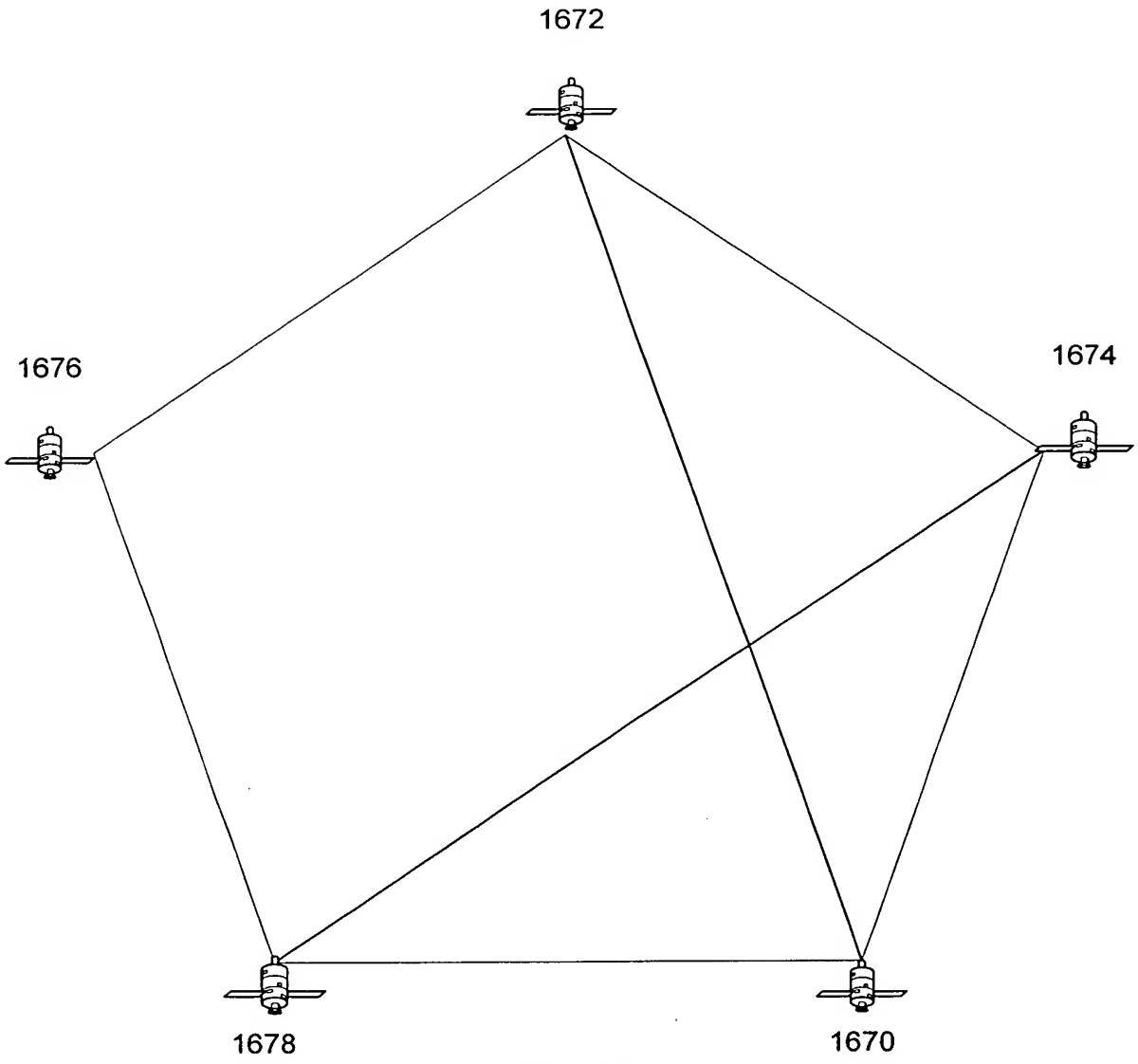


Figure 16

1780

Routes	WAN Spacecrafts	Route Information
1	1670→1672	Information for route 1
2	1670→1674→ 1678→1676→1672	Information for route 2
3	1670→1674→1672	Information for route 3
4	1670→1678→ 1674→1672	Information for route 4
⋮	⋮	⋮

Figure 17

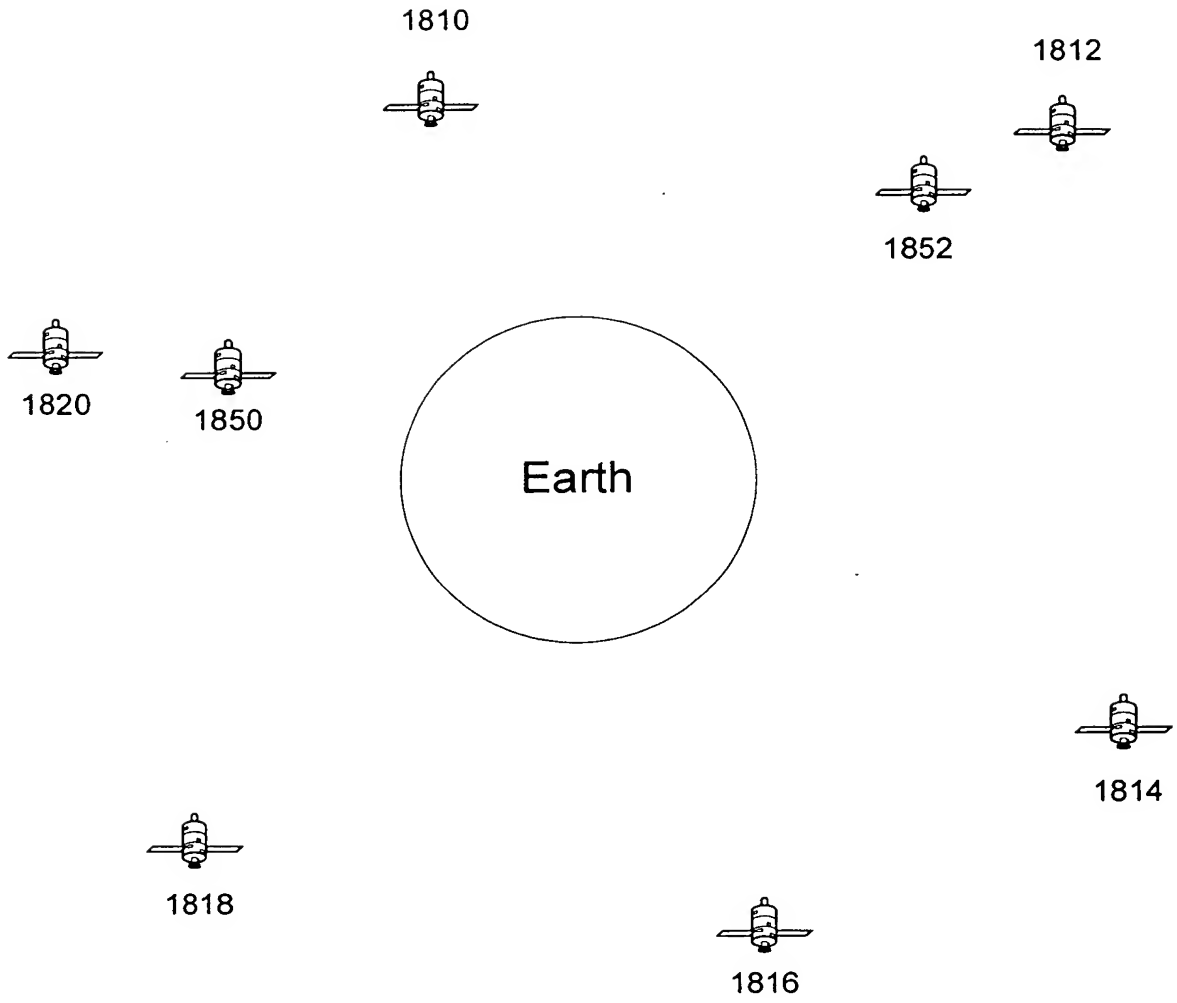



Fig. 18